WHAT IS CLAIMED IS:

1. An optical pickup comprising:

a laser light source;

a beam separation means which separates a laser beam emitted by the laser light source into at least three beams;

a converging optical system which converges the three beams and forms three separate convergence spots on a recording surface of an optical information record medium; and

a photodetector which is placed to receive each of reflected beams of the three convergence spots from the optical information record medium with a photoreceptor surface divided into at least two faces, wherein:

the beam separation means is divided into at least three areas, first through third areas, each of which has prescribed periodic structure, and

the first area is placed between the second and third areas, and

the second area has periodic structure that is shifted from that of the first area by approximately 90° in the phase of the periodic structure, and

the third area has periodic structure that is shifted from that of the second area by approximately 180° in the phase of the periodic structure.

2. The optical pickup according to claim 1, wherein the three convergence spots are formed such

that the interval between adjacent convergence spots measured in a direction substantially orthogonal to guide grooves periodically formed on the recording surface of the optical information record medium is approximately equal to zero or an integral multiple of a pitch between the guide grooves.

3. An optical information recording/reproducing apparatus for reading or writing information from/to an optical information record medium by laser beam irradiation, comprising:

an optical pickup including a laser light source, a beam separation means which separates a laser beam emitted by the laser light source into at least three beams, a converging optical system which converges the three beams and forms three separate convergence spots on a recording surface of the optical information record medium, and a photodetector which is placed to receive each of reflected beams of the three convergence spots from the optical information record medium with a photoreceptor surface divided into at least two faces; and

a tracking error signal detection means having the function of detecting a tracking error signal according to a differential push-pull method by executing proper operations to signals obtained from the photoreceptor surfaces of the photodetector of the optical pickup, wherein:

the beam separation means is partitioned into

at least three areas, first through third areas, each of which has prescribed periodic structure, and

the first area is placed between the second and third areas, and

the second area has periodic structure that is shifted from that of the first area by approximately 90° in the phase of the periodic structure, and

the third area has periodic structure that is shifted from that of the second area by approximately 180° in the phase of the periodic structure.

4. An optical information recording/reproducing apparatus comprising:

an optical pickup including a laser light source, a beam separation means which separates a laser beam emitted by the laser light source into a main beam and at least two sub beams, a converging optical system which converges the main beam and the sub beams and forms three separate convergence spots on a recording surface of an optical information record medium on which guide grooves are formed at preset pitches, and a photodetector which is placed to receive each of reflected beams of the three convergence spots from the optical information record medium with a photoreceptor surface divided into at least two faces;

a push-pull signal generation circuit which generates push-pull signals regarding the main beam and the sub beams respectively by executing proper operations to photoelectric signals obtained from the

photoreceptor surfaces of the optical pickup;

a differential push-pull signal generation circuit which generates a differential push-pull signal by adding all or part of the push-pull signals regarding the sub beams together, amplifying the added signal by an amplification factor K, and subtracting the amplified signal from the push-pull signal regarding the main beam; and

an amplification factor control means which changes the amplification factor K depending on the interval between the guide grooves of the optical information record medium.